

CLAIMS

1. A lysophospholipase which is:
 - a) a polypeptide encoded by a lysophospholipase encoding part of the DNA sequence cloned into a plasmid present in *Escherichia coli* deposit number DSM 13003, DSM 13004, DSM 13082 or DSM 13083, or
 - b) a polypeptide having an amino acid sequence as the mature peptide shown in SEQ ID NO: 2, 4, 6 or 8, or which can be derived therefrom by substitution, deletion, and/or insertion of one or more amino acids, particularly by deletion of 25-35 amino acids at the C-terminal;
 - c) an analogue of the polypeptide defined in (a) or (b) which:
 - i) has at least 70% homology with said polypeptide,
 - ii) is immunologically reactive with an antibody raised against said polypeptide in purified form, or
 - iii) is an allelic variant of said polypeptide; or
 - d) a polypeptide which is encoded by a nucleic acid sequence which hybridizes under high stringency conditions with a complementary strand of the nucleic acid sequence shown as nucleotides 109-1920 of SEQ ID NO: 1, 115-1914 of SEQ ID NO: 3, 70-1881 of SEQ ID NO: 5 or 193-2001 of SEQ ID NO: 7, or a subsequence thereof having at least 100 nucleotides.
- 20 2. The lysophospholipase of claim 1 which is native to a strain of *Aspergillus*, preferably *A. niger* or *A. oryzae*.
3. A nucleic acid sequence comprising a nucleic acid sequence which encodes the lysophospholipase of claim 1.
4. A nucleic acid sequence which comprises:
 - 25 a) the lysophospholipase encoding part of the DNA sequence cloned into a plasmid present in *Escherichia coli* DSM 13003, DSM 13004, DSM 13082 or DSM 13083,
 - b) the nucleic acid sequence shown as nucleotides 109-1920 of SEQ ID NO: 1, 115-1914 of SEQ ID NO: 3, 70-1881 of SEQ ID NO: 5 or 193-2001 of SEQ ID NO: 7,
 - c) an analogue of the sequence defined in a) or b) which encodes a lysophospholipase and

- 5 i) has at least 70% homology with said DNA sequence, or
ii) hybridizes at high stringency with a complementary strand of said DNA
sequence or a subsequence thereof having at least 100 nucleotides,
iii) is an allelic variant thereof, or
d) a complementary strand of a), b) or c).

5. A nucleic acid construct comprising the nucleic acid sequence of claim 3 operably linked
to one or more control sequences capable of directing the expression of the lysophospholipase
in a suitable expression host.

10 6. A recombinant expression vector comprising the nucleic acid construct of claim 5, a
promoter, and transcriptional and translational stop signals.

7. A recombinant host cell transformed with the nucleic acid construct of claim 6.

8. A method for producing a lysophospholipase comprising cultivating the host cell of claim
7 under conditions conducive to production of the lysophospholipase, and recovering the lyso-
phospholipase.

15 9. The method of claim 8 wherein the lysophospholipase can be derived from the mature
peptide of SEQ ID NO: 2, 4, 6 or 8 or is an analogue thereof, and the host cell is a transformed
strain of *A. oryzae*.

10. A process for hydrolyzing fatty acyl groups in a phospholipid or lysophospholipid, com-
prising treating the phospholipid or lysophospholipid with the lysophospholipase of claim 1.

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20 11. A process for improving the filterability of an aqueous solution or slurry of carbohydrate
origin which contains phospholipid, which process comprises treating the solution or slurry with
the lysophospholipase of claim 1.

12. The process of claim 11 wherein the solution or slurry contains a starch hydrolysate,
particularly a wheat starch hydrolysate.